SAFETY UPDATE

Eric C. Smith
Safety Inspector
Nevada LP-Gas Board

Why do I need an Emergency Electrical Shutoff Switch (EESS) for an LP-Gas dispenser?

NFPA 58 (2001) section 3.9.3.10 requires that "An identified and accessible switch or circuit breaker shall be installed at a location not less than 20 ft (6.1 m) or more than 100 ft (30.5 m) from the dispensing device(s) to shut off the power in the event of a fire, accident, or other emergency. The marking for the switch(es) or breaker(s) shall be visible at the point of liquid transfer."

O.K., NFPA 58 requires EESS's….. but why do they require them and is it really worth the extra expense to have one installed?

A lot of people don't realize it but tucked away inside of the majority of LP-Gas dispenser meters is a differential valve. The differential valve built into the meter operates the same way that the differential valve on the back of your bobtail does (yes there is one on your bobtail to). So what's the big deal about a differential valve and what does it have to do with an EESS?

Most of you will remember from your CETP training that a differential valve works just like it sounds…. on differential pressure…… If you were to take apart a differential valve it would look something like a regulator, it has a case, a diaphragm, and a spring. The top of the diaphragm is connected to tank pressure and the bottom of the diaphragm is connected to the outlet of the meter (pump pressure). The spring pressure is set somewhere around 9 psig. Under static conditions (pump is off) the gas pressure on the top and the bottom of the diaphragm is equal so the spring pressure holds the valve closed. What does all this mean? It means that the only way to open the differential valve is to turn on the pump. When the pump is running the pressure on the bottom of the diaphragm is greater than the combined pressure of the spring and the gas on the top of the diaphragm ……. Pump on… valve open.

O.K. so what does this have to do with the EESS? Well… any time you turn off the pump the differential valve closes which stops the flow of gas…. I know some of you are saying "that's great! But there's a power switch at the dispenser cage why do I need another one?"…..Well that's an easy answer… what if you had a leak or fire at the point of transfer that prevented you from accessing the power switch at the dispenser? Yes that's correct you could access the EESS which is located a safe distance away from the dispenser. No power….. no pump pressure…. valve closes…. no more leak (once the pressure in the hose is released)…. no more fire or risk of fire!

During an emergency situation things can get a little hectic. This is why it is

important that the EESS is not located to close or to far away from the point of transfer (between 20 ft. and 100 ft.) This is also why you must label the EESS so it can be easily seen from the point of transfer.

Now that you know why they are important…… teach someone else….. incorporate the EESS location and operation in your next dispenser operator training.